

Spring 5-11-2019

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Recommended Citation

Goodenough, Bailey, "Formative and Summative Test Process: The Students' Perspectives" (2019). *Masters of Education in Teaching and Learning*. 25.
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Formative and Summative Test Process: The Students' Perspectives

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Abstract

Students are assessed using a variety of formative and summative assessments. One West Texas School chose to implement an assessment process using both forms of assessment. The Formative and Summative Test process is a three-day process allowing teachers to collect data, reteach content, and help students meet mastery. The purpose of the study was to understand the students' perceptions of the testing process, as well to determine if test grades were improving and how the process came to be. The author collected data by distributing surveys, conducting six student interviews and one administrator interview, and observing student conversations. After analyzing data with the constant comparative method and creating memos, the author identified five themes: an origin story, suggestions for study guides, reviews, and activities, junior high angst, the testing process, and test score improvements. This study provides a description of a unique testing process of collecting data and meeting mastery.

Formative and Summative Test Process: The Students' Perspectives

The day had come. The end of the unit. Test day. “So remind me. What do we have today?” the teacher asked. “The Formative Test!” shouted the few students who couldn’t wait for this day. The other 95% of the students were groaning and slouching in their desks, wishing they had studied more, wishing they had skipped school today, wishing they had caught the stomach bug that was going around.

Although test days are not every student’s favorite day, these days are sometimes necessary in the education world. River Oaks Junior High (all names are pseudonyms) implemented a unique testing process that combines both formative and summative assessments. The school refers to this process as the “Formative and Summative Test.” At the end of each instructional unit, the testing process takes place totaling three days, involving two tests with a review day in between. Below, see Figure 1, is an example and detailed outline of the process (instructional unit durations depend on content areas and the standards for the specific content area).

Weeks	2 ½ Weeks of Instruction				
1	Instruction	Instruction	Instruction	Instruction	Instruction
2	Instruction	Instruction	Instruction	Instruction	Instruction
3	Instruction	Instruction	Formative Test	Review/Reteach	Summative Test

Figure 1. 2 ½ weeks of instruction.

The day after instruction of each instructional unit is complete, students take the Formative Test. Students take the Formative Test (the first test) for teachers to collect data to determine what information needs to be retaught.

The second day is a review and reteach day, where teachers review the most missed questions and the content that students struggled to grasp on the Formative test. The second day of the process is when real learning, application, and comprehension happens.

Finally, on the third day of the process is the Summative Test (the second test). If students make an 85 or higher on the Formative Test they do not have to take the Summative Test, but they can if choose to do so. If students make an 84 or lower, they have to take the Summative Test. After both tests have been taken, teachers take the higher of the two grades.

“How do you think you did?” the teacher asks two different students. One girl throws up a thumbs up with a giant smile on her face saying she probably made a 100. The other shrugs his shoulders, says nothing, then puts his eyes to the floor and walks back to his desk. The teacher wonders, “What do students really think about test day?”

Purpose

The purpose of the study was to understand student perceptions of the Formative and Summative Test process. Along with understanding student perceptions, I wanted to know why River Oaks Junior High chose this method of testing. The study also evaluated if students' grades in the fall and spring semesters were improving from the Formative Test to the Summative Test.

I believed it was important to know what students thought and felt about the process, as this was something they did every instructional unit in every content class they had in their schedule. To put this into perspective, Texas History students were participating in 10 instructional units with 20 tests (one Formative and one Summative every instructional unit). That is a lot of testing in the eyes of a melodramatic, social media crazed, trying to figure out who he or she is seventh-grade student.

During this study I was a graduate student who had recently been hired by the school as an employee in a seventh-grade Texas History classroom. River Oaks Junior High was located in a mid-sized West Texas town, in an independent school district of seven schools. Approximately 720 students attended the junior high. Seventy three percent of the students were White, while 18% were Hispanic, 4% were African American, and 3% were two or more races. Seventeen percent of the students were economically disadvantaged, 7% were considered Special Education, and 0.6% were English Language Learners.

There were no teachers at the school who had ever evaluated what students thought about the testing process. This is another reason why I was interested in understanding my students' perceptions. I knew that the findings in the study would allow me to help my students in future years before, during, and after test days. Because of the uniqueness of the testing process, I wanted to answer the following questions:

Research Question: What are seventh-grade students' perceptions of the Formative and Summative Testing process at River Oaks Junior High?

Sub-Questions: Are the test scores improving from the Formative to the Summative Test? Why/how did River Oaks Junior High choose the Formative and Summative Test process?

Literature Review

Assessment is a part of the learning process. Assessment is one of the most important aspects of education, both for teachers and students (Taras, 2005). Students participate in assessments for teachers to evaluate what is being learned and what is not being learned. Assessment can even be defined as a “an effort by instructors to check the status of student learning” (Yao, 2015, p. 53). There are two types of assessments that are used frequently by

educators. One type of assessment is a formative assessment. Formative assessment can be described as an assessment of the student learning. Stiggins and DuFour (2009) described formative assessment as a way to “identify student understanding, clarify...[and] help students track their own progress toward attainment of standards” (p. 640). Not only do students track their learning, but also the teacher can understand what students comprehend and what may need to be retaught. Examples of formative assessment are quizzes, classroom activities, and bell ringers (Yao, 2015). The second type of assessment frequently used by educators is summative assessment. Summative assessment can be described as the overall assessment of learning (Harlen, 2005). Typically summative assessment occurs at the end of learning with a test or a project to evaluate student understanding.

According Yao (2015), teachers have different definitions and perceptions of assessment. Some teachers believe that assessment is a checkpoint tool to check student understanding, while some believe that assessment is a chance for students to practice what they learned in class. Many teachers interviewed by Yao (2015) agreed that projects and group work were their favorites types of assessment. Overall, though, the teachers understood and agreed that testing was the best type of assessment. This was a time when the teacher could celebrate with his or her students in what each knows. Testing allowed the teachers to reflect on what was taught and what might need to be retaught. One teacher described assessment as the final outcome with reteaching as a necessity after. When reteaching occurs, teachers and students can work together as partners in the learning process (Stiggins, 2005). Yao (2015), along with the participant teacher, concluded that assessment represents the end of a learning period and the beginning of a new learning period.

Students have a differing perception of assessment than their teachers. Students are trying to develop their own understanding of the content they are being taught (Entwistle & Karagiannopoulou, 2014). Unfortunately, this may not be the expectation and understanding that the teacher has set in place. Because of this, students feel pressure to meet the expectation through assessments, and this creates a negative perception. The way the student views the content and the expectations from the teacher can skew the student's perceptions towards assessment.

There is currently no research that has been conducted about the Formative and Summative Test process like the one used at River Oaks Junior High. However, there are some medical schools are using a method very similar with medical students. Medical schools are calling this method Progress Testing (Given, Hannigan, & McGrath, 2016; Yelder et al., 2017). Progress tests are repeated assessments that look for learned knowledge over a set time completed by every student. An alternative to the progress tests is continuous summative assessments (Trotter, 2006). Both alternatives are similar to the Formative and Summative Test process as they are repeated processes to check for student understanding over a certain period of time.

Although there is plenty of research on formative and summative assessments individually and separately, there is nothing like the Formative and Summative Test process at River Oaks Junior High. My research will contribute to the educational field in two ways. The first contribution is the idea of the testing process. When researching assessment techniques, there were no schools that used a testing process quite this unique. The Formative and Summative Test process is a specific tool that River Oaks Junior High uses to track student growth and what teachers need to reteach. The second way my research will contribute to the

educational community is to give educators a glimpse into the student mind in regards to assessment. The purpose of the study is to understand student and teacher perceptions of the specific testing process.

Methods

In the seventh-grade classroom where I was the classroom teacher and graduate student, I conducted my action research project about student perceptions of the Formative and Summative Test process that River Oaks Junior High implemented. While conducting my research, I was both the researcher and teacher. Because of this, students were familiar with my role in the classroom.

Participant Selection

The participants in the study were seventh-grade students in four sections of a Texas History class, one administrator, and the classroom teacher, me, who doubled as the researcher. There were four classes of Texas History totaling 97 students. There were 24 students in first period, 20 in second period, 28 in seventh period, and 25 in eighth period. Of the 97 students, 54 were females and 43 are males (1st: 7 male, 17 female; 2nd: 12 male, 8 female; 7th: 11 male, 16 female; 8th: 13 male, 13 female). Eleven of the 97 students had IEP/504 accommodations, including extra time, note assistance, shortened assignments, oral testing, small group, open notes, and study sheets (1st: 4; 2nd: 4; 7th: 2; 8th: 1).

Each of the 97 students was given a parent permission form, a FERPA permission form, and a student permission form. The students returned all three forms to the teacher when a parent and the student had signed all of the appropriate papers. All the forms received were returned within a four week period (given on January 9, returned February 6).

The students participated in the study by taking a survey one time. After I analyzed the survey results, I purposefully selected six students to take part in an interview (Patton, 1990). The assistant principal was chosen as the administrator who participated in one interview as well. The assistant principal was the best choice as he was really interested in looking at data in order to improve instruction and see student growth. I was also involved in the research as the classroom teacher. I created and collected observation notes throughout the study on what students said about the Formative and Summative Test process.

Data Collection

The first form of data collection in the study was a Likert scale survey (see Appendix A). Every student who returned a signed consent and assent form from each of the four classes of Texas History received a survey. This totaled to 97 surveys. The survey asked questions about the Formative and Summative Test process, specifically targeting the students' perceptions. The survey also included two open-ended questions for student opinion. Only one survey was given to the students throughout the research process.

Interviews were the second form of data collection (see Appendix B). The interviews were semi-structured. I selected six students to interview, as well as the assistant principal. The student interviews lasted 10-15 minutes in length, while the administrator interview lasted 15-20 minutes in length. Six students were selected based on the information found in each of their surveys (i.e. very negative perception, average perception, very positive perception). Choosing to interview students with these specific perceptions gave me more data about how the students felt in regards to the Formative and Summative Test process. In the interview with the administrator, I wanted to ask questions specific to why this process of assessment was chosen for the school

and how the administration decided that this process was best. All interviews were audio recorded and transcribed.

The third form of data collection was the collection of student grades. I collected students' grades from the fall and early spring semester. I was already gathering this information for teaching purposes. The purpose of collecting student grades was to assess if students were improving from the Formative Test to the Summative Test. Another purpose of collecting student grades was to provide evidence and credibility for the testing process.

The fourth and final form of data collection was a reflection journal (Hendricks, 2017). Throughout the day, I listened for students to say things that pertain to the Formative and Summative Tests. I carried around a notepad and sometimes sticky notes to jot down things I heard and things I thought. At the end of the day, I processed these notes by reflecting. The goal of this data collection was to look for patterns of students' perceptions and to understand any deeper perceptions students may have had about the tests.

Data Analysis

Due to the research questions and the methods being used for collection, I analyzed both qualitative and quantitative data, meaning I analyzed using mixed-methods. I used the constant comparative method to code surveys, interviews, observation notes, and memos (Hubbard & Power, 2003; Tracy, 2013). When I analyzed student surveys, I used tally marks to calculate student responses (see Appendix C). I used these totals to determine which students I would include in the interview process. Tally marks helped me easily find averages for responses as described by Hendricks (2017).

To analyze students' test scores, I used a gradebook format that had been consistent throughout the year. The format was a spreadsheet with the Formative Test in one column, the

Summative Test in the next column, and the higher of the two grades in the third column. This format made it easy for me to compare the scores for both the Formative and the Summative Tests because the two scores were right next to each other, along with the higher of the two grades in the very next column. I only looked at grade of those students whose parents signed and returned parent permission forms and FERPA forms.

When analyzing data, I looked for level 1 and level 2 codes (Tracy, 2013). When coding the data, I found 15-20 level 1 codes by reading through the first twenty percent of my data. With the remaining eighty percent of the data, I found three to five level 2 codes (see Appendix D). After finding the three to five level 2 codes, I reflected on each by creating a memo (Tracy, 2013). These memos helped me further analyze my data. The following paragraphs describe these level 2 codes.

What I Found

Three days before test day....

The groaning has begun.

“But WHY do we have to take TWO tests?”

The girl in the front row worries what others will think if she
f a I l s.

It’s the second semester, and a student asks,

“The first test is the Summative Test, right?”

Teacher sighs, “no...”

Study Guides, Reviews, Activities, Oh My!

Before Formative review day.

Give out study guides that will have the same material as the tests.

From Formative to Summative

The teacher asks,

“Will

grades

improve?”

The above poetic transcription (Glesne, 1997) was used to highlight and describe some of the data that was collected throughout the study. As I analyzed interviews, surveys, and observation notes, I noticed five themes emerging: study guides, reviews, activities, the testing

process, junior high angst, are test scores improving?, and an origin story of the process. Within the following sections, I describe these themes with evidence found in the data.

Origin Story

Six years ago, Mrs. Caris and a committee of her colleague teachers and administrators met to discuss a campus wide grading policy at River Oaks Junior High. While developing a plan, a married couple of teachers who had previously been employed in a different school district, explained a new testing method. This method was the Formative and Summative Test process. The committee was so interested in the method that they decided to implement it at River Oaks Junior High.

I asked Mrs. Caris to explain what administration planned for the testing process to look like. I did this due to the fact that I was an employee of the school and wanted to know what my administrator's vision was for the three days. She stated:

Teachers deliver the content, and they give a Formative assessment where they collect the data and study data, [find where] areas of weaknesses are and see what needs to be retaught and then take the opportunity to reteach the material focusing on the weaknesses and then take the Summative test in hopes that [students] tackle those weaker areas and [teachers] see improvement in mastery.

Along with this, Mrs. Caris explained that the school was not reckless in this act. As mentioned above, River Oaks Junior High wanted to see growth in their students' learning. The process allowed teachers to assess students and understand what students comprehended. Students taking the Formative Test did this. When teachers collected data from the Formative Test, teachers then retaught content that was still misunderstood. The students would then take the Summative Test.

Mrs. Caris explained that the “ultimate goal is mastery” for all students when taking part in the process.

While the Formative and Summative Test process, in theory, seems like a great idea when thinking about mastery, there was some pushback when it was first implemented at River Oaks Junior High. One thing Mrs. Caris mentioned was teacher attitudes towards the process at first. She said, “[teachers] felt like they might not have time to implement the reteach day and...having two tests over the same content because they had this pattern...delivering content and then testing.” One concern I had, as far as pushbacks, was how River Oaks High School responded to the process. The high school does not have the Formative and Summative Test process in place. Mrs. Caris voiced that by the time our students reach eighth-grade they have “worked the system” and know that they don’t have to try their best on the Formative because they get another chance on the Summative. Unfortunately, when they get to high school, they only have one chance, and this is something that the high school teachers have to explain to freshmen from day one of high school.

Overall, Mrs. Caris was very positive about the three-day process. She explained its purpose was for students to reach mastery of content. She also described that teachers have the unique opportunity to collect and analyze data to better their practice, and teachers truly are taking advantage of this more than in the past.

Study Guides, Reviews, Activities

As I was analyzing my data, I noticed that study guides, reviews of different kinds, and activities in class were everywhere. It was a theme I kept seeing over and over again. One overwhelming response in interviews, surveys, and observations in class was how much the students wanted some kind of review and study guides before both the Formative Test and the

Summative Test. Here are the four initial codes found in the level 2 code: study guides, review before Formative Test, rewards/prizes, and activities.

Most of the students suggested teachers should give a study guide for the tests. Texas History never gives a study guide, especially not before the Formative Test. Students in Texas History have plenty of study material in their Texas History interactive notebook, along with a Quizlet study set for every test as a study tool. Student 11 and Student 31 (due to the number of participants in the study, some students were assigned numbers while others were given pseudonyms) suggested that a study guide be given as a grade. While this is a good idea, students in Texas History have the tools they need to study for both the Formative and Summative Test without having to give a study guide for a grade.

Student 21, Student 22, Student 20, Student 36, and Jade all suggested that there should be a review day before the Formative Test like there is before the Summative. Austin suggested, “before the formative we should study like we do on review day.” If students have this review before the Formative then the second day of the process would be pointless. The purpose of the review day in between the two tests is to reteach any content students may have misunderstood and help them meet mastery. If we reviewed the day before a Formative Test students wouldn’t need that extra day of reteaching after the first test. While I was analyzing and seeing this theme emerge more and more, I wondered if in sixth-grade the teachers had a review the day before tests. The sixth-grade is on a different campus in the River Oaks School District, and they do not use the Formative and Summative Test process. Maybe this is why seventh-grade students want a review day before the first test.

In interviews, all six students listed activities that are helpful for learning and that are helpful in the preparation process. Some of these activities include Quizlet Live, group work,

Plickers, and foldables. In her interview, Bella stated, “In Mr. Paul’s class we play Kahoot and like that next day I remember doing it and so it helps me on the ...Formative.” The activities are in place for this very reason, to help students remember the content.

One thing I noticed throughout the data was the misconception students had about activities in class. Students didn’t realize that the activities in class were to prepare them for both the Formative Test and the Summative Test. Reading through survey responses, listening to students in class, and conducting the interviews I realized that students didn’t know this. They think the activities in class are just busy work, but the review day on the second day is the test preparation day. Therefore, students believe that teachers should provide them with some kind of study guide or review before the tests.

The Testing Process

Before conducting the research, I knew that misconceptions would be a big possibility. I didn’t think my students were fully educated in the three-day process and its purpose. When asked about the Formative and Summative Tests, Rennee questioned which one was which, “[it’s] the second one, I don’t know?” Ashley and Student 37 thought that the Summative Test had more questions than the Formative and that’s why it’s harder. Student 21 said the teacher makes the Summative Test harder than the Formative (see Figure 2).

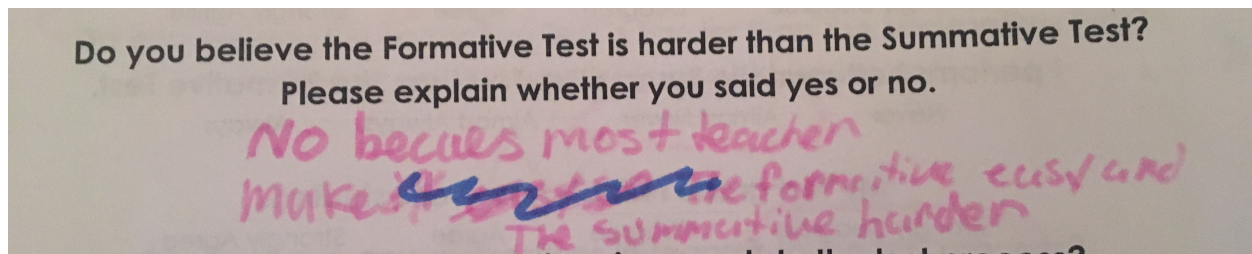


Figure 2. Student 21 comment on survey.

I believe that students have these misconceptions because they don't know why we use the process in the first place. I think if students knew the meaning behind the process they would have a better grasp of each test and its significance to their learning.

An initial code I saw pretty early on when analyzing the data was preparation and how prepared students felt taking these tests. When I describe preparation I am mainly talking about how well the teacher prepares students on the review day. There were three specific statements on the survey that led me to this conclusion. The first was "The teacher uses the results of the Formative Test to adequately reteach for the Summative Test." On this question, 21 students circled almost always, and 25 circled always. The second was "After the review day, I feel prepared to take the Summative Test." Below is a table (see Figure 3) displaying the responses from this statement.

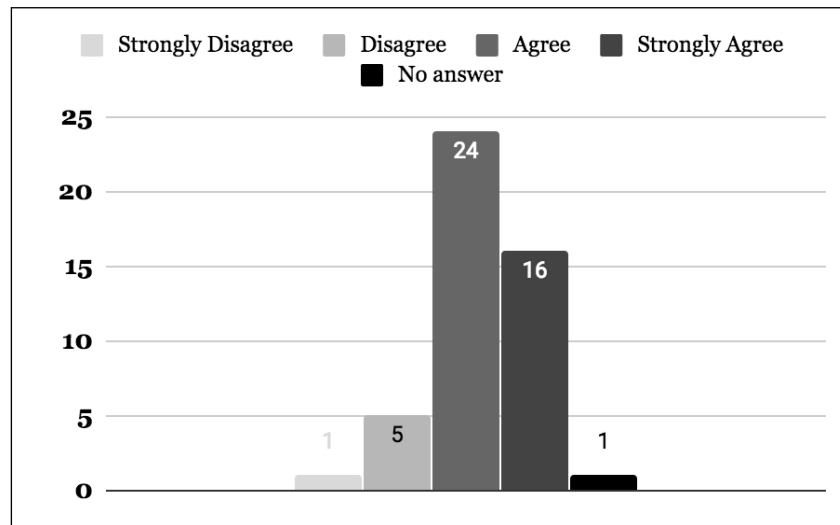


Figure 3. "After the review day, I feel prepared to take the Summative Test."

The last statement on the survey that described preparation was "The activities we do in class prepare me for the test." Nineteen students circled almost always and 25 circled always. I think all three of these statements and their responses speak highly to the teaching habits and activities that teachers do in the classroom to prepare students for the Summative Test.

I wondered if students thought the process was helpful for their learning in any way. I asked this question to the six students I interviewed as part of the interview process. All six of the students I interviewed said the process is helpful to their learning. Madison explained that the process is helpful in certain subjects. She stated, “I think it’s a little bit helpful in math and reading and sometimes in writing...Texas History helps me a lot.” Austin thinks the process is helpful because it sums everything up. Jade also said the process is helpful because the teacher goes over most missed questions, and it helps her understand the content better. Ashley said yes because “the Formative Test is the beginning and what you know, but the Summative test is more information and then if you put both of those together it helps you learn more.” Lastly, Bella explained that her favorite part of the process is the review day in between the two tests because we got over content twice.

One question I asked in the interviews was, “On a scale of 1-10 (10 being 100% yes) how likely are you to take the Summative Test if you scored an 85 or higher on the Formative Test?” Again, students who score an 85 or higher on the Formative Test do not have to take the Summative Test, but can to improve their grade. The teacher always takes the higher of the two grades, whether you have to take the Summative or not. All six students I interviewed answered this question in a range of five to eight. Ashley said a five because it depends on the class. If it’s a class she thinks is “easy” then she will take the Summative, but a “harder” class she won’t. Rennee said, “about a 6 or 7 because it depends on how good [she] feels about it...if it’s something [she knows] well [she’ll] take it again because [she] thinks [she] can get a better grade the second time.” If I was to ask other students this exact question, I’m sure their responses would be the same.

Something throughout the data that made me laugh were the suggestions that students gave in regards to the process and teaching habits. One specifically that made me laugh. See the comment below in Figure 4.

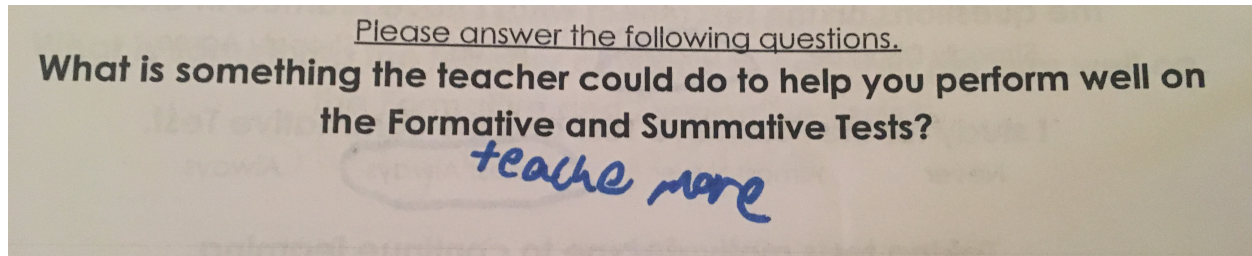


Figure 4. Student 30 suggestion on survey.

Thank you for that suggestion Student 30. Student 13 suggested that teachers go deeper into material, while Student 16 suggested at home quizzes. Both of these students are more advanced students, and I wondered what it would look like to have these activities as extension activities for those students who are grasping the information. Rennee's suggestion was the one that really stuck out to me. I asked her if she had any suggestions for the process. She said:

"I feel like...if all the students just generally just don't do very well then they should reteach the material.... but if everyone gets above a 70 or something then I don't really think they should do the second test...I don't think they should dwell on it like some teachers do."

I appreciated Rennee's comment, but I also realized how much my students don't understand this process and its importance! There are many misconceptions, but rightfully so because teachers have not thoroughly explained the testing process to students.

Junior High Angst

When looking at data, one initial code was "test feelings." I chose this title because I saw multiple feelings towards test taking. Some students verbally expressed what they thought about taking tests, and some students subtly described their feelings through survey questions. I asked

Ashley if she had a positive or negative feeling towards taking tests, and she said “negative, because I don’t like taking tests!” This seems like a classic seventh-grade answer. In my field notes on February 11, I described how my students reacted to the news there was a test in the upcoming week...they all groaned at me. The majority of seventh-grade students seem to dislike taking tests, so the added bonus of taking two tests per instructional unit really makes them groan. I loved the honesty of Madison in her interview. She stated that she has a more negative feeling towards taking tests, and she would “rather listen to a teacher yap about their life than do a test.” She said she enjoys the work leading up to taking a test, studying and preparing, but she doesn’t like actually taking tests.

On the survey, students responded to the statement “I enjoy taking tests.” The responses can be found in the following table (see Figure 5).

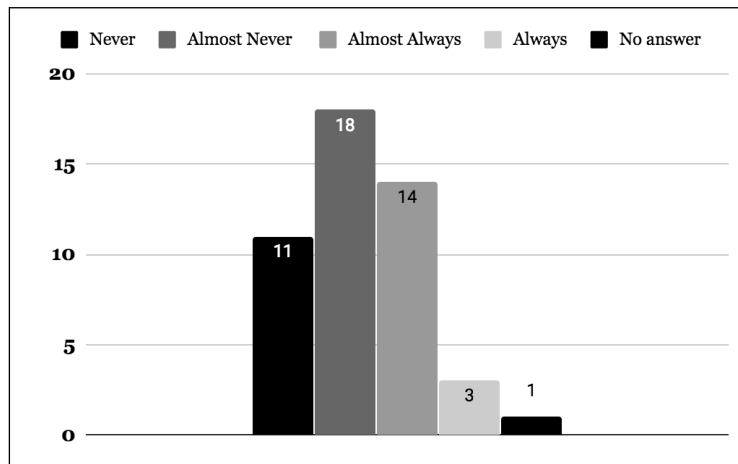


Figure 5. “I enjoy taking tests.”

Another statement on the survey was a picture of five faces ranging from very sad to very happy with the statement, “Circle the face that best represents your feelings about the Formative and Summative Test Process” (see Figure 6). From left to right I labeled these faces as 1, 2, 3, 4, and 5.



Figure 6. Face that represents test feelings.

Two students circled number 1, four circled number 2, 12 circled number 3, 15 circled number 4, and 13 circled number 5. From this statement I gathered that most students have indifferent and neutral feelings towards the process. It was hard to tell if students circled the face based on their feelings towards testing or if they read the question and circled a face that represented their feelings towards the process. My assumption, based on prior evidence from the rest of the survey and interviews, students are neutral towards the testing process, but don't enjoy taking tests.

Another emotion I noticed was anxieties. Anxious thoughts were not bluntly stated in interviews or surveys, or even during observations. It was something I saw subtly throughout the data. When asked the question "how long would you say you study for each test?", Student 26 answered, "every time I study, I fail." Jade stated that she has a negative feeling towards tests "because [she has] test anxiety and [she hates] that feeling of like if you make a bad grade then what is everyone going to think of you?" The insecurity and anxiety is so real in junior high, especially when a seventh-grader is asked to take a test.

Motivation was another thing I saw emerging when I was analyzing data. On the survey when asked, "Taking tests motivates me to continue learning", the majority of students who took the survey responded with agree (see Figure 7).

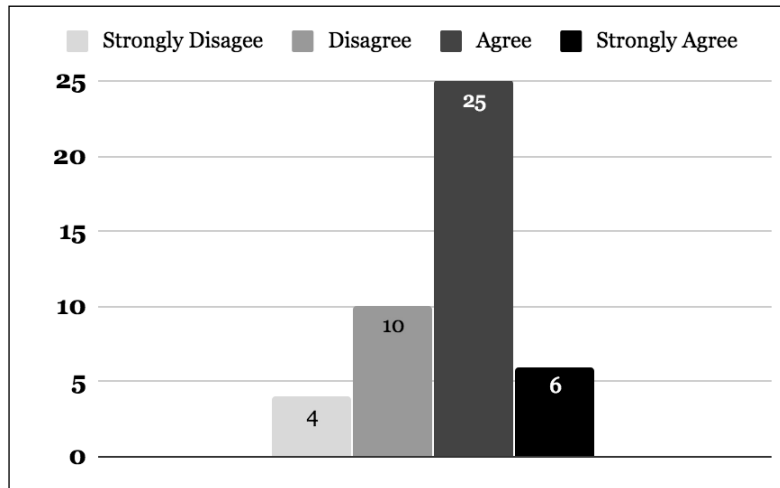


Figure 7. "Taking tests motivates me to continue learning."

In an interview, Ashley stated that she didn't want to get a bad grade so she studied for her tests. Jade stated that her grade is her motivation. In an interview she said, "I would rather shoot for a 100 and have a chance to make a better grade." Even Madison said her motivation was her grade. She stated that she tried to make a good grade on all the Formative Tests so she doesn't have to take any of the Summative Tests. Junior High angst and emotions are influential on students' perceptions of the entire process.

Are Test Scores Improving?

To determine if test scores were improving, I looked at four different tests. Of the four tests, two were from the fall semester and two were from the spring semester. I only looked at the 48 students whose parents signed the parent permission forms and the FERPA form. Something I noticed quickly was that most students were improving from the Formative Test to the Summative Test. Not all students improved, but more than 50% of my students' test grades were improving from the first test to the second test. Because I looked at four different tests I named them Test A, Test B, Test C, and Test D (see Appendix E).

One thing I noticed pretty early this semester was the fact that my students don't know how to take tests. I don't think they have been taught the skills and strategies they need to be

successful on tests. I noticed this during the first review day of the semester. We were going over some of the most missed questions from the Formative Test. I asked my students if they could cross off any obvious wrong answers. I had a lot of blank stares. I asked if they knew what I was talking about and they responded no. We had to pause the lesson and have a crash course on what process of elimination was.

I tested a hypothesis within this study to see if the above conclusion was accurate. On the review day of Test A, I retaught content that students did not know or understand on the Formative Test to help them on the Summative Test. This is normal for a review and reteach day. Throughout the lesson, I taught two testing strategies: process of elimination and how to read passages. I didn't go into depth with these strategies as my focus was all about reteaching the content.

On the review day of Test B, I retaught content and explicitly taught test taking strategies. The strategies included process of elimination and how to read a passage, along with some test taking and studying tips. One example of this was how to remember the name of two important people. John Magruder and Thomas Green were Confederate Generals who fought in the Battle of Galveston. I always try to find a letter or a rhyme to help me remember people. So to remember John Magruder and Thomas Green, I told my students to look for the "G": G for Galveston, g in Magruder, G in Green.

On Test A, 28 of the 48 students' test grade improved from the Formative Test to the Summative Test. Sixteen students did not improve from the first test to the second, two students' grades stayed the same, and two students didn't have to take the Summative Test because they scored an 85 or higher on the Formative Test. Of the 48 students, 58% of students' grades improved from the Formative Test to the Summative Test (see Figure 8).

On Test B, 40 of the 48 students had a higher grade on the Summative than the Formative. Four students' grade did not improve from the Formative Test to the Summative Test. Just like Test A, two students did not have to take the Summative because they scored higher than an 85 on the Formative Test, and two students' grades stayed the same from the first to the second. Of the 48 students, 83% of students' grades improved from the Formative Test to the Summative Test. This can be represented in the graph below, (see Figure 8).

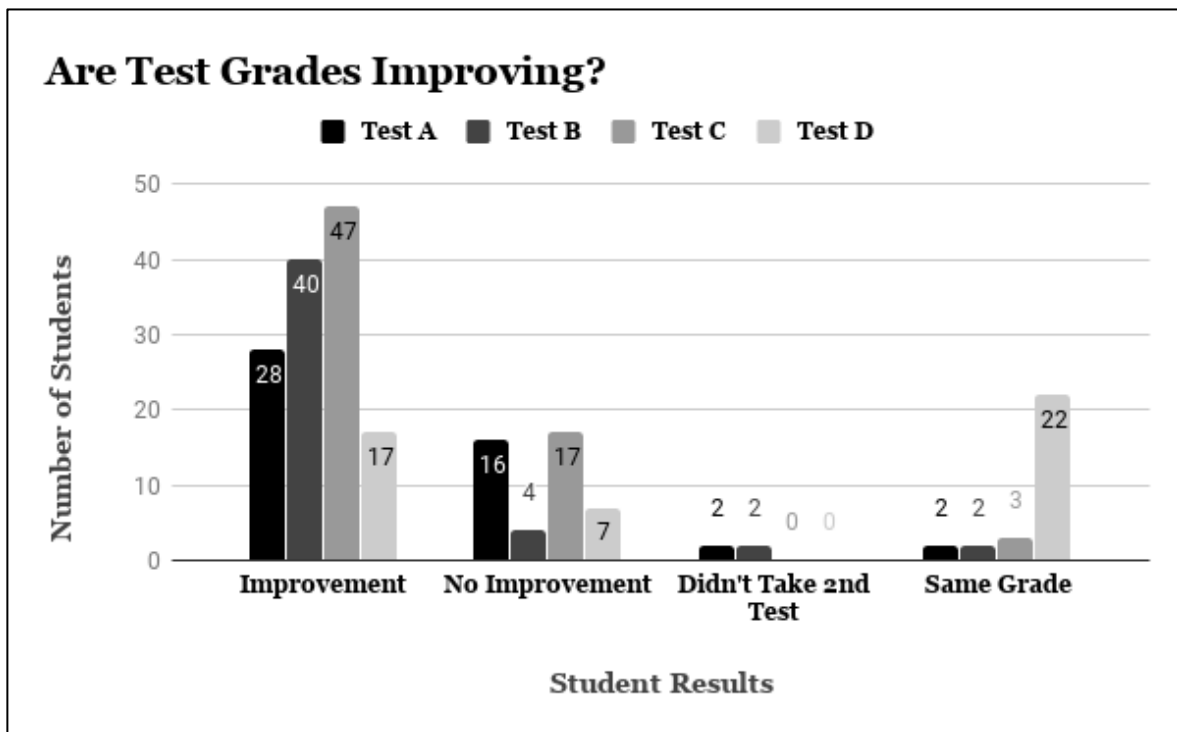


Figure 8. Test results.

To further understand if test grades were improving, I looked at how many students' grades were improving 5% or less, 6-10%, 11-20%, and 21+%. I tallied all four tests together in order to find a percentage of students whose grades were improving by the grade percentage mentioned above. In the graph below, the number of students who improved by a specific percentage is represented in the vertical bars (see Figure 9).

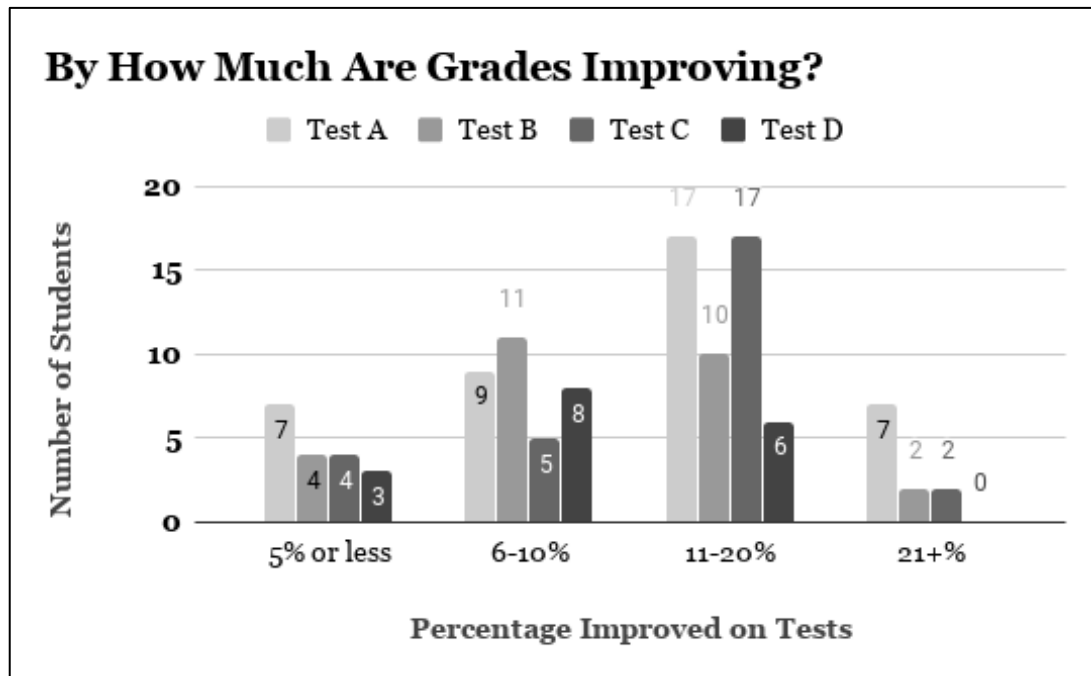


Figure 9. By how much are grades improving?

Unfortunately, I was not able to test my theory of explicitly teaching testing strategies on the review day in the fall semester, but knowing my students and their habits I believe that grades would have looked very similar. I can confidently say that test grades are improving from the Formative Test to the Summative Test. Not every student in the class will improve their grade from one test to the second, but most students' grades will improve.

Implications for Teachers

The goal for every teacher at the end of an instructional unit is for students to meet mastery of the content. River Oaks Junior High has implemented a method that allows for teachers to have time to collect data, check for student understanding, and then provide reteaching of the content that has not yet been mastered. The Formative and Summative Test process is unique and in many ways successful in achieving the school's goals. Students have the opportunity to not only improve their grade from one test to the next, but they also have the chance to relearn information and meet mastery of content.

One suggestion I would make to others using this process is to explicitly teach how to take a test. It seems as though the students in my four sections of Texas History have not been taught how to take tests, and this is definitely a disadvantage when thinking about improving a test grade. Students' test grades can improve from the Formative Test to the Summative Test when taught the necessary skills to take a test.

The testing process at River Oaks Junior High has not been thoroughly explained to students. This has led to many misconceptions and grumblings from students. That being said, it is important for students to be informed of this process and why they are participating in the first place. The purpose of the Formative and Summative Test process is to evaluate student growth and to determine if students are meeting mastery in the content. I believe that it is so important for our students to understand why they are participants in this testing process. If they do not know why, then they have no motivation or reason to do well and succeed. They will go through the motions of taking a test and reviewing content.

At a recent staff development, some teachers from the fifth and sixth grade campus in River Oaks school district asked how we grade tests and collect data so quickly. The three-day process doesn't allow for a lot of time to really gather and analyze data; however, many teachers at River Oaks Junior High use an app called Zipgrade to accomplish this. Zipgrade is a quick way to grade assessments. Students use the Zipgrade scantrons (see Appendix F) to answer questions on the test. The teacher then uses the app to scan the scantrons. The app grades the tests within seconds and collects all the data for the teacher under the section in the app titled "Item Analysis." The Item Analysis section shows the teacher what percentage of students got each question correct (see Appendix G). The teacher can use this information to reteach content

based on the questions that students are getting wrong. Zipgrade is an easy and quick alternative to grading tests and analyzing in order to reteach.

The last implication for teachers who want to implement something similar is to teach test taking strategies. Seventh-graders at River Oaks Junior High, specifically in my Texas History sections, have not been explicitly taught how to take tests. They don't know how to eliminate answer choices or how to read passages. When these strategies were taught along with the content that was retaught on the second day of the process, students' grades were more likely to improve. When these strategies were not taught and only the content was retaught, some students' grades improved, but most grades were worse or they stayed the same from one test to the next.

After completing this study, I am interested in conducting further research looking at what teachers in different content areas thought about the process. I would even want to consider asking students about the process in regards to content areas other than Texas History. I also want to look at different options for a formative assessment, not just a test, which can show mastery of specific content. Overall, students have a very neutral opinion of the Formative and Summative Test process. They state that they would rather not take tests, though they love having the second chance to not only improve their grade, but also their knowledge of content.

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Appendix A**Test Perceptions Survey**

Circle the answer you think best describes how you feel.

I enjoy taking tests.

Never Almost Never Almost Always Always

I think the Formative Test is harder than the Summative Test.

Strongly Disagree Disagree Agree Strongly Agree

How often does the teacher take time to make sure you understand what you are learning?

Never Almost Never Almost Always Always

I work hard to master difficult content.

Strongly Disagree Disagree Agree Strongly Agree

The questions on the test reflect what I have learned in class.

Strongly Disagree Disagree Agree Strongly Agree

I study for the Formative Test and the Summative Test.

Never Almost Never Almost Always Always

Taking tests motivates me to continue learning.

Strongly Disagree Disagree Agree Strongly Agree

When I get feedback on the Formative Test I know what I need to re-study for the Summative Test.

Strongly Disagree Disagree Agree Strongly Agree

I perform better on the Summative Test than the Formative Test.

Never Almost Never Almost Always Always

My test grade reflects how well I studied.

Strongly Disagree Disagree Agree Strongly Agree

The teacher uses the results of the Formative Test to adequately reteach for the Summative Test.

Never

Almost Never

Almost Always

Always

After the review day, I feel prepared to take the Summative Test.

Strongly Disagree

Disagree

Agree

Strongly Agree

The activities we do in class prepare me for the test.

Never

Almost Never

Almost Always

Always

Circle the face that best represents your feelings about the Formative and Summative Test Process



Please answer the following questions.

What is something the teacher could do to help you perform well on the Formative and Summative Tests?

How long would you say you study for each test?

**Do you believe the Formative Test is harder than the Summative Test?
Please explain whether you said yes or no.**

**Do you have any suggestions in regards to the test process?
(Formative Test, Review Day, Summative Test).**

Appendix B

Interview Protocols

What are seventh grade students' perceptions of the Formative and Summative Test process at Wylie Junior High?

6-9 students, 10-15 minutes

1. Tell me about a time when you did really well on a test
 - a. Were you praised for it?
 - b. Why do you think you did well?
2. Do you think taking the Formative Test and then the Summative Test helps you learn the information at the end of the unit?
 - a. Why or why not?
3. On average, how long would you say you study before the Formative Test? (if you even study)
4. Do you think you are more likely to study before the Formative Test or the Summative Test? WHY?
5. When you hear the word "test" do you have a positive or negative feeling? Explain.
6. Do you learn more or less on the review day?
 - a. What is one (or more than one) suggestion you would make that would help you on the review days?
7. What is something the teacher does well to prepare you for the Formative Test?
 - a. I.e. notes, pickers, quizzes, etc.
8. What is something the teacher does well to prepare you for the Summative Test?
9. On a scale of 1-10 (10 being absolutely yes), how likely are you to take the Summative Test if you scored above an 85 on the Formative Test? Please explain.

Why/how did Wylie Junior High choose the Formative and Summative Test process?

Assistant Principal, 15-20 minutes

1. Tell me about the conversations you had when brainstorming the Formative and Summative Test process.
2. What were some things you took into consideration when choosing this method of testing?
 - a. Positives and negatives
3. What was the response when it was first implemented?
4. Have you had resistance to the method?
 - a. If yes, explain.
 - b. From teachers, students, and/or parents
5. What is the ultimate goal you have in mind for teachers in regards to the Formative and Summative Tests?
6. Do other schools in the district use this testing method?
 - a. What do the others school think about the method?
 - b. Will the Formative and Summative Test process be implemented into schools district wide?

Questions may vary and additional questions may be asked depending on answers of the participants.

Appendix C

Survey Response Results

I enjoy taking tests				
Never	Almost Never	Almost Always	Always	No answer
11	18	14	3	1
I think the Formative Test is harder than the Summative Test.				
Strongly Disagree	Disagree	Agree	Strongly Agree	
10	19	17	1	
How often does the teacher take time to make sure you understand what you are learning?				
Never	Almost Never	Almost Always	Always	
	1	14	32	
I work hard to master difficult content.				
Strongly Disagree	Disagree	Agree	Strongly Agree	
	4	25	18	
The questions on the test reflect what I have learned in class.				
Strongly Disagree	Disagree	Agree	Strongly Agree	
	1	22	22	
I study for the Formative Test and the Summative Test.				
Never	Almost Never	Almost Always	Always	No answer
4	10	25	6	2
Taking tests motivates me to continue learning.				
Strongly Disagree	Disagree	Agree	Strongly Agree	
4	10	25	6	
When I get feedback on the Formative Test I know what I need to re-study for the Summative Test.				
Strongly Disagree	Disagree	Agree	Strongly Agree	
2	4	25	15	
I perform better on the Summative Test than the Formative Test.				
Never	Almost Never	Almost Always	Always	No answer
1	5	33	6	1
My test grade reflects how well I studied.				
Strongly Disagree	Disagree	Agree	Strongly Agree	
2	9	16	19	
The teacher uses the results of the Formative Test to adequately reteach for the Summative Test.				
Never	Almost Never	Almost Always	Always	
	1	21	25	
After the review day, I feel prepared to take the Summative Test.				
Strongly Disagree	Disagree	Agree	Strongly Agree	No answer
1	5	24	16	1
The activities we do in class prepare me for the test.				
Never	Almost Never	Almost Always	Always	
1	2	19	25	
1	2	3	4	5
Sad	Kind of Sad	Medium	Happy	Very Happy
2	4	12	15	13

Appendix D

Codebook

Code Book			
Code Name	Level	Code Definition	Code Example
Rewards/Prizes	I	Students receive a reward or prize for success.	"Candy for right answer on review day, for 80-100 on Formative, and candy for 100 on Summative"
Depends on the class	I	Students describe study time, study habits, and activities differ depending on the class.	"So taking the Formative Test and then taking the Summative Test does that help you learn the information better?" "Sometimes and sometimes it doesn't. It depends on the subject"
Study habits	I	The way students study.	"I take my notebook home every Friday to review what we have learned so far so I'm prepared"
Process is helpful	I	The 3 day testing process is helpful for the student.	"Because if I get a bad grade on my Formative Test then you go over like the questions that people missed then I understand the questions better. And I usually make a better grade on the Summative Test anyways"
Motivation	I	What makes the student want to succeed.	"Because I try to do better on the first test so I don't have to take the second test"
Activities	I	What is done in class to prepare the student for tests.	"We do review days, review games, sometimes we'll do Quizlet Live and that can help me....see what I did and what I didn't do wrong on that"
Study guides	I	Reviews for tests.	"She could give out study guides that are for a grade"
Suggestions	I	Anything the student thought should be changed or added to the testing process.	"I like it the way it is...we got more of a review if we go over it. And then when you put it in an activity it's kind of hands on so it's like oh wait yeah I know what we're talking about"
Misconceptions		What students did not	"I feel like the Summative is harder"

	I	understand about the testing process.	because they want you to do good on the Formative"
Review before the formative	I	Review time the day before the first test.	"Before formative review day"
Praise	I	Encouragement for students who do well on tests.	"Were you praised for this (good grade on a test)?" "My mom got excited!"
Study time	I	How long students study for tests.	"...I usually try to study like 10 minutes, at least. Just so I kind of cover everything."
Preparation	I	How the students got ready for tests.	"Some of my teachers give me a review the day before and like you, you tell us what pages to study..."
Likelihood to take summative test	I	How likely the student is to take the Summative Test even if he or she scores an 84 or higher on the Formative.	"7 because on the Summative Test it gives you more information to keep in your brain"
Test feelings	I	How students feel about testing--positive, negative, or in between.	"When you hear the word test do you have a positive or negative feeling and why?" "Mostly negative because I don't want to take it. I'd rather hear a teacher yap about their life that do a test"
Helpful to remember information	I	Activities, strategies, or tips that make learning the content easier.	"The spiral quizzes. Are these helpful for you to remember the stuff from past units?" "yes"
Anxieties	I	Test anxieties.	"A negative feeling because I have test anxiety and I hate that feeling of like if you make a bad grade what is everyone going to think of you?"
Why we take tests	I	Reasons students take tests	"So your teacher can see what you understand and you don't understand. And so you understand that you don't understand"
Goal of the Process	I	Goals for the 3 day process.	"The ultimate goal is mastery..."

How the process came about	I	How the process got its existence.	"6 years ago...our directive was coming up with a campus wide grading policy..."
Responses	I	Thoughts about the process.	"There was some push back from teachers...but once they understood that this is for your benefit..."
Results	I	Outcomes from the process.	"I think it's made teachers look at the data more"
Concern	I	Concerns when students leave River Oaks Junior High	"When students go to to the high school have you seen some push back...or maybe students who aren't succeeding like they were inn junior high?"
Study Guides, Reviews, Activities	II	Students suggested the use of study guides, more review, and different activities.	"Have one day before each test to have a study time"
Junior High Angst	II	Junior High students feelings towards taking tests	"It's like I didn't do well the first time so I usually always retake it in here because I know I can do better than before"
The Testing Process	II	Students' thoughts about the testing process.	"I think the Summative is easier because since we review for the Formative it ties into a better review for the Summative"
Are Test Scores Improving?	II	Test grades improving from the Formative to the Summative Test.	"Of the 48 students who had signed and returned parent permission forms, 40 improved from the Formative to the Summative, four did not improve, two didn't have to take the test, and two received the same grade"
Origin Story	II	Reason(s) why and how River Oaks Junior High chose this specific testing process, along with goals and results.	"So we met about 6 years ago...the directive was to come up with a campus wide grading policy...we learned about the Formative and Summative Test process and wanted to know more."

Appendix E

Test Score Data

	Test A		Test B		Test C		Test D	
Name	Form. March 5, 2019	Summ. March 7, 2019	Form. Feb. 19, 2019	Summ. Feb. 21, 2019	Form. Nov. 6, 2018	Summ Nov. 8, 2018	Form. Sept. 14, 2018	Summ. Sept. 16,2018
Madison	47	82	70	63	61	76	87	X
Jade	70	72	83	70	61	68	90	X
Austin	67	80	67	70	71	76	94	X
1	60	78	67	77	68	80	94	X
2	42	78	70	60	64	80	94	X
3	53	62	70	63	61	88	97	X
4	70	82	57	53	75	68	90	97
5	83	92	80	77	64	68	77	90
6	83	95	80	X	75	88	97	X
7	67	82	70	73	79	88	84	90
8	73	77	70	83	89	68	97	94
9	75	92	83	77	68	80	87	X
10	82	87	80	90	93	84	100	X
11	60	88	83	87	79	88	97	X
12	67	73	63	83	90	X	68	80
13	63	67	60	80	71	68	77	81
14	50	83	77	30	75	56	97	90
15	73	85	60	77	79	80	94	X
16	82	90	77	77	68	88	94	X
17	58	67	73	83	82	80	94	84
18	58	62	53	47	82	40	89	X

19	80	83	87	X	79	92	97	94
20	73	58	53	67	82	80	94	X
21	73	83	57	70	68	64	90	X
22	57	78	80	53	86	X	94	X
23	67	80	77	83	61	92	90	X
24	70	85	80	77	71	84	84	94
25	63	47	50	60	57	52	68	84
26	90	X	67	77	64	80	77	81
27	83	83	70	77	71	64	90	X
28	52	67	60	63	61	72	71	84
29	80	80	80	73	82	88	X	97
30	83	63	67	83	79	96	84	90
31	63	80	53	70	82	68	94	X
32	83	80	67	63	61	76	84	87
33	43	75	50	73	79	64	77	87
34	40	53	43	57	61	52	77	97
35	73	77	80	80	79	72	90	97
36	68	75	73	80	75	76	97	90
37	35	57	67	73	75	88	87	X
38	63	78	57	80	X	X	X	X
39	85	X	43	60	86	X	90	X
Ashley	63	82	77	87	75	92	94	84
Renee	63	70	77	60	57	72	65	77
Bella	62	73	77	67	71	68	94	X
Abraham	72	85	83	0	72	52	74	84
Natalie	77	83	77	87	57	76	77	71
Lisa	58	73	80	70	68	76	84	94

Appendix F

Zipgrade Scantron

Key Version

A ☐

B ☐

C ☐

D ☐

E ☐

Name	XXXXXXXXXX	Date	
Class	1st Period	Quiz	

Student ZipGrade ID

9	9	9	1	3	■	A	B	C	D	E	■	A	B	C	D	E
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1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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A	B	C	D	E	■	A	B	C	D	E	■	A	B	C	D	E
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

























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3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Teachers: Hold paper on flat surface when grading.
Be aware of bright lights and shadows.

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Zipgrade Item Analysis

Quiz Menu ITEM ANALYSIS									
Quiz: Civil War Summative									
Classes: <No Class>,1st Period,2nd Period,7th Per									
Q#	%	Response Freq.					DF	Pts	
1	97	 D 84	 B 2	 C 1			0.12	1	
2	89	 A 77	 D 5	 C 3	 AB 1	 B 1	0.46	1	
3	57	 D 50	 B 17	 C 11	 A 7	 CD 1	0.47	1	
4	70	 A 61	 B 17	 D 4	 C 4	 AB 1	0.12	1	
5	11	 B 40	 C 33	 A 10	 D 3	 CD 1	-0.00	1	
6	80	 C 70	 A 15	 B 1	 AC 1		0.48	1	